



06/19/97

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: HARPOLD et al.

Serial No.: 07/938,154

Filed: November 30, 1992

For: HUMAN NEURONAL NICOTINIC  
ACETYLCHOLINE RECEPTOR COMPOSITIONS  
AND METHODS EMPLOYING SAME

Group Art Unit: 1812

Examiner: Ulm, J.

I hereby certify that this paper and the attached  
papers are being deposited with the United States  
Postal Service as first class mail in an envelope  
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Assistant Commissioner for Patents  
Washington, D.C. 20231, on this date.

06/17/97  
Date

  
Stephanie L. Seidman

**SUPPLEMENTAL RESPONSE AND SUPPLEMENTAL TO THE SUBMISSION OF  
INFORMATION UNDER  
37 C.F.R. §1.56**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Supplemental to the Submission of Information pursuant to 37 C.F.R. §  
1.56, mailed May 9, 1997, and responsive to the Office Action, mailed August  
20, 1996, consideration of the following remarks is respectfully requested:

**REMARKS**

Two DECLARATIONS of JOHNSON have been made of record in this  
application. The experiments described in the first and second DECLARATIONS  
of Johnson measure different pharmacological properties. Among the results  
described in the second DECLARATION of Johnson, submitted with the paper  
mailed May 9, 1997, are those that were published in Chavez-Noriega et al. (J.  
Pharmacol. Exp. Ther., 280:346-356 (1997)). This publication ranks agonists  
based on a qualitative comparison of their partial dose response curves. As  
described in Chavez-Noriega *et al.*, recombinant human  $\alpha$  and  $\beta$  nAChR subunits  
were expressed in *Xenopus* oocytes to form active human nAChR and the  
oocytes were then evaluated for electrophysiological responses to various  
concentrations of nAChR agonists, including acetylcholine (ACh), nicotine,  
cytisine (CYT) and 1,1-dimethyl-4-phenylpiperazinium (DMPP). Figure 4 of  
Chavez-Noriega *et al.* shows a partial dose-response curve for each agonist with